

Claims

1. Stainless steel with a composition as following (in weight-%):

5	Carbon	max 0.1
	Nitrogen	max 0.1
	Copper	0.5 - 4
	Chromium	10 - 14
	Molybdenum	0.5 - 6
10	Nickel	7 - 11
	Cobalt	0 - 9
	Tantalum	max 0.1
	Niobium	max 0.1
	Vanadium	max 0.1
15	Tungsten	max 0.1
	Aluminum	0.05 - 0.6
	Titanium	0.4 - 1.4
	Silicon	max 0.7
	Manganese	≤ 1.0
20	Iron	balance

Normally occurring usual steelmaking additions and impurities characterized in, that said stainless steel after nitriding exhibits a hardened surface layer with a hardness of at least 1200 Hv.

25 2. Stainless steel according to claim 1, characterized in, that said stainless steel contains quasicrystalline particles in the martensitic microstructure as a result of a precipitation hardening.

30 3. Method for the making of a surface modified stainless steel according to claim 1, characterized in, that said stainless steel is subjected to a nitriding process at 450 to 580°C during a period of time of 1 to 40 hours in a plasma nitriding atmosphere.

4. Product according to any of the previous claims in form of wire, plate, strip, tube and pipe and other geometries, especially complex geometries for use in applications with high demands on a combination of high strength and/or
5 toughness and wear resistance, such as e.g. wear parts of engines and other engine components, impact loads, such as safety devices, cam followers, cam follower pads, valve stems, valve stem guides, piston pins, piston shafts, hydraulic pistons, ejector pins, safety protection plates, lock cylinders and other locking devices, blocking elements, thief-proof equipment or the like and without
10 change in dimension.

5. Material according to claims 1 and 2 use a substrate for the deposition of wear resistant coating.

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